

L Number	Hits	Search Text	DB	Time stamp
-	3380	(metal and hydrogen and plasma) and 438/\$	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 15:24
-	811	((metal and hydrogen and plasma) and 438/\$) and copper	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/15 15:05
-	16	((metal and hydrogen and plasma) and 438/\$) and copper) and pre-treat\$	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/15 15:17
-	18	((metal and hydrogen and plasma) and 438/\$) and pre-treat\$) and helium	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/15 15:17
-	44	("4173661"   "4480010"   "4844775"   "5017403"   "5127988"   "5202280"   "5232871"   "5296404"   "5308655"   "5312774"   "5314603"   "5352623"   "5451258"   "5576071"   "5593511").PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/15 15:22
-	48	(metal and hydrogen and plasma) and 438/\$) and pre-treat\$	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 12:30
-	44	("4173661"   "4480010"   "4844775"   "5017403"   "5127988"   "5202280"   "5232871"   "5296404"   "5308655"   "5312774"   "5314603"   "5352623"   "5451258"   "5576071"   "5593511").PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 12:16
-	25	(plasma adj anneal) and copper	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 13:44
-	38	("5142438"   "5362632"   "5405796"   "5409855"   "5479316"   "5508881"   "5576071"   "5685951"   "5696394"   "5741712"   "5754390"   "5773363"   "6010940"   "5142438"   "5362632"   "5405796"   "5409855"   "5479316"   "5508881"   "5576071"   "5685951"   "5696394"   "5741712"   "5754390"   "5773363"   "6010940").PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 13:34
-	43416	adhesion and copper	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 13:44
-	593	(adhesion and copper) and (barrier adj metal)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 13:45
-	473	((adhesion and copper) and (barrier adj metal)) and (temperature or anneal)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 13:46
-	3	((adhesion and copper) and (barrier adj metal)) and (temperature or anneal)) and (pre-treat\$).clm.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 13:47

-	59	((adhesion and copper) and (barrier adj metal)) and (temperature or anneal)) and (heat).clm.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 13:47
-	160	((adhesion and copper) and (barrier adj metal)) and (temperature or anneal)) and temperature.clm.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 13:48
-	26	((adhesion and copper) and (barrier adj metal)) and (temperature or anneal)) and temperature.clm.) and (barrier adj metal).clm.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 13:48
-	9	("5739579"   "5847463"   "5886410").PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 14:10
-	13	("4789648"   "5447887"   "5693563"   "6136680"   "6146988").PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 14:13
-	25	("4789648"   "5011782"   "5334554"   "5447887"   "5635425"   "5693563"   "5902122"   "5994200"   "6048764").PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 14:15
-	38	5447887.URPN.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 14:21
-	0	6339258.URPN.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 14:35
-	30	("5447887"   "5470789"   "5506449"   "5614437"   "5665628"   "5668411"   "5679980"   "5686760"   "5696018"   "6110598").PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 14:36
-	13	5668411.URPN.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 14:44
-	3	6136682.URPN.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 14:51
-	17	5899740.URPN.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 14:59
-	3	810221.ap.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 15:33
-	30	(pre-treatment or pretreatment) and (barrier adj metal adj layer)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/02/20 15:35

## Search Histories

	Search Histories available	Format
1.	Feb 21 11:34:17 2002	HTML, PDF
2.	Feb 21 11:18:53 2002	HTML, PDF
Search Histories are available for at least 8 hours after the end of your session. HTML format is for saving only the text, or for immediate printing from your browser. PDF format is for saving text and graphics together, and requires Adobe Acrobat Reader.		

Search History: Feb 21 11:34:17 2002

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Search: copper AND pre-treatment

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Search: copper AND pre-treatment AND temperature

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Search: copper AND pre-treatment AND temperature AND barrier metal layer

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Search: copper AND pre-treatment AND temperature AND barrier

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Display from CPlus database

**ANSWER 27 © 2002 ACS****Title**

Growth, selectivity and adhesion of CVD-deposited **copper** from Cu+1 (hexafluoroacetylacetonate trimethylvinylsilane) and dichlorodimethylsilane

**Author**

Webb, James B.; Northcott, Daniel; Emesh, Ismail

**Organization**

Institute for Microstructural Sciences, National Research Council Canada, M-50 Montreal Road, Ottawa, ON, K1A 0R6, Can.

**Publication Source**

Thin Solid Films (1995), 270(1-2), 483-8

**Identifier-CODEN**

THSFAP

**ISSN**

0040-6090

**Abstract**

Cu films were deposited by low-pressure (1-20 mtorr) CVD using Cu1+-hexafluoroacetylacetonate-trimethylvinylsilane onto SiO2 patterned substrates having seed layers of W, TiN and Al. Blanket deposition is obsd. for all growth **temps.** in the range 140°.ltoreq.Tg.ltoreq.240°. However, depending on the initial substrate seed layer and **pre-treatment**, the relative strength of the Cu-oxide and Cu-seed layer bond can be dramatically altered particularly when growth is carried out in the presence of dichloromethylsilane (DCDMS). The degree of selectivity as well as film morphol. also is sensitive to the initial **pre-treatment**, growth **temp.** and flow rate of DCDMS.

**Document Type**

Journal

**Language**

English

**Accession Number**

1995:1005729 CAPLUS

**Document Number**

124:131755



Display from CAplus database

**ANSWER 35 © 2002 ACS****Title**

Improvement of **pre-treatment** process for electroplating on **copper** and **copper** alloy parts

**Author**

Xie, Gansheng

**Organization**

Shanghai Radio Electron. No. 10 Plant, Shanghai, 200135, Peop. Rep. China

**Publication Source**

Cailiao Baohu (1993), 26(5), 38-9

**Identifier-CODEN**

CAIBE3

**ISSN**

1001-1560

**Abstract**

The improvement comprises (1) the use of BC-1 low-**temp.** metal degreasing agent to degrease at 40-50° to replace a conventional high-**temp.** one (90-100°) and (2) the use of an improved brightener comprising HCl, H<sub>2</sub>O, and an activator to replace conventional one which produces air-polluting yellow smoke. The improvement saves energy and cost and is easy to prep., the operation is easy, the soln. is stable and the maintenance is easy.

**Document Type**

Journal

**Language**

Chinese

**Accession Number**

1994:445109 CAPLUS

**Document Number**

121:45109

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The logo for STN Easy, with 'STN' in a bold, blocky font and 'Easy' in a stylized, cursive script, all enclosed within a dark, irregular border.

Display from CAplus database

**ANSWER 45 © 2002 ACS****Title**

On the importance of thermal **pre-treatment** for the microstructural interpretation of **copper**-manganese alloys

**Author**

Pfeiler, W.; Reihnsner, R.

**Organization**

Inst. Festkoerperphys., Univ. Vienna, Vienna, A-1090, Austria

**Publication Source**

J. Phys. F: Met. Phys. (1985), 15(12), 2547-52

**Identifier-CODEN**

JPFMAT

**ISSN**

0305-4608

**Abstract**

The usual thermal **pre-treatment** of Cu-(5-20) at.% Mn [100014-27-5] specimens for neutron scattering expts. is not suited to achieving an equil. microstructure which corresponds to the previous annealing **temp.**

**Document Type**

Journal

**Language**

English

**Accession Number**

1986:54782 CAPLUS

**Document Number**

104:54782



Display from INSPEC database

**ANSWER 7 © 2002 FIZ KARLSRUHE****Title**

Growth, selectivity and adhesion of CVD-deposited **copper** from Cu+1 (hexafluoroacetylacetonate trimethylvinylsilane) and dichlorodimethylsilane.

**Author**

Webb, J.B.; Northcott, D. (Inst. for Microstructural Sci., Nat. Res. Council of Canada, Ottawa, Ont., Canada); Emesh, I.

**Publication Source**

Thin Solid Films (1 Dec. 1995) vol.270, no.1-2, p.483-8. 10 refs.

Published by: Elsevier

Price: CCCC 0040-6090/95/\$09.50

CODEN: THSFAP ISSN: 0040-6090

SICI: 0040-6090(19951201)270:1/2L.483:GSAD;1-2

Conference: 22nd International Conference on Metallurgical Coating and Thin Films. San Diego, CA, USA, 24-28 April 1995

**Document Type**

Conference Article; Journal

**Treatment Code**

Experimental

**Country of Publication**

Switzerland

**Language**

English

**Abstract**

**Copper** films have been deposited by low-pressure (1-20 mTorr) chemical vapour deposition using Cu1+ (hexafluoroacetylacetonate)trimethylvinylsilane onto SiO<sub>2</sub> patterned substrates having seed layers of W, TiN and Al. Blanket deposition is observed for all growth **temperatures** in the range 140 degrees Cpre-treatment, the relative strength of the **copper**-oxide and **copper**-seed layer bond can be dramatically altered particularly when growth is carried out in the presence of dichloromethylsilane (DCDMS). The degree of selectivity as well as film morphology is also found to be sensitive to the initial **pre-treatment**, growth **temperature** and flow rate of DCDMS.

**Accession Number**

1996:5188050 INSPEC

**Display from SCISEARCH database**

L# ANSWER 13 OF 21 SCISEARCH COPYRIGHT 2002 ISI (R)  
 AN 96:45021 SCISEARCH  
 TI GROWTH, SELECTIVITY AND ADHESION OF CVD-DEPOSITED \*\*\*COPPER\*\*\* FROM CU+1  
 (HEXAFLUOROACETYLACETONATE TRIMETHYLVINYLSILANE) AND  
 DICHLORODIMETHYLSILANE  
 AU WEBB J B (Reprint); NORTHCOTT D; EMESH I  
 CS NATL RES COUNCIL CANADA, INST MICROSTRUCT SCI, M-50 MONTREAL RD, OTTAWA,

ON K1A 0R6, CANADA (Reprint); NO TELECOM CANADA LTD, SEMICOND COMPONENTS  
GRP, NEPEAN, ON K1Y 4H7, CANADA

SO THIN SOLID FILMS, (01 DEC 1995) Vol. 270, No. 1-2, pp. 483-488.

ISSN: 0040-6090.

DT Article; Journal

AB \*\*\*Copper\*\*\* films have been deposited by low-pressure (1-20 mTorr) chemical vapour deposition using CuI+ (hexafluoroacetylacetonate) trimethylvinylsilane onto SiO<sub>2</sub> patterned substrates having seed layers of W, TiN and Al. Blanket deposition is observed for all growth \*\*\*temperatures\*\*\* in the range 140 degrees C less than or equal to T-g less than or equal to 240 degrees C. However, depending on the initial substrate seed layer and \*\*\*pre\*\*\* - \*\*\*treatment\*\*\*, the relative strength \*\*\*copper\*\*\* -oxide and \*\*\*copper\*\*\* -seed layer bond can be dramatically particularly when growth is carried out in the presence of dichloromethylsilane (DCDMS). The degree of selectivity as well as film morphology is also found to be sensitive to the initial \*\*\*pre\*\*\* - \*\*\*treatment\*\*\* growth \*\*\*temperature\*\*\* and flow rate of DCDMS.

ST Author Keywords: ADHESION; CHEMICAL VAPOR DEPOSITION; \*\*\*COPPER\*\*\* ; METALS

STP Keywords Plus (R): CHEMICAL-VAPOR-DEPOSITION

RE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)
CHIOU J C	1995	142	177	J ELECTROCHEM SOC
CHIOU J C	1994	23	383	J ELECTRON MATER
FARKAS J	1994	141	3547	J ELECTROCHEM SOC
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JAIN A	1992	61	2662	APPL PHYS LETT
JAIN A	1993	140	1434	J ELECTROCHEM SOC
JAIN A	1993	11	2107	J VAC SCI TECHNOL B
KYOICHI S	1994	9	23	C P ULSI NEW YORK
MISAWA N	1994	9	79	C P ULSI
NORMAN J A T	1991	4	271	J PHYSIQUE